**Bike Sport Developments Ltd – UK**
Tel 0044 (0)1327 263942 – mail@bikesportdevelopments.co.uk



NEMESIS - TCS

# Nemesis-TCS 'Traction Control System
# Installation manual 1098R - Type – AA for race seat

| **Kit part No.** | **TCS-1098R.AA** |
|---|---|
| Application - 1098R using the race type seat fairing. The TCM clamps to the rear sub frame cross member. For 1098R applications with a standard seat unit and DTC mount the TCS clamp will not be needed. | |

| **Speed pick up components** | **Part No** | **Checked** | **Qty** |
|---|---|---|---|
| Front left speed bracket | CSD1327 | | 1 |
| Front left axle spacer | CSD1281 | | 1 |
| 5 bolt trigger disk assembly | CSP1014 | | 1 |
| Speed sensor | 23813030401 | | 1 |
| M8 Washer - Aluminium | CSP1013 | | 5 |
| M6 x 16 Zinc Hex head cap screw - Speed sensor | CSP1019 | | 1 |

| **Traction module components** | **Part No** | **Checked** | **Qty** |
|---|---|---|---|
| Traction Control Module | TCM | | 1 |
| Bobbin - Dia 10x15, M5 x12mm | CSP1012 | | 3 |
| Bracket set race seat, inc 4 x cap screws | CSD1288 | | 1 |
| M5 Serrated Flange Nut | CSP1017 | | 6 |

| **Wiring** | **Part No** | **Checked** | **Qty** |
|---|---|---|---|
| Coil wiring | CSW1285 | | 1 |
| CAN and Inputs wiring | CSW1299 | | 1 |
| Front speed ext cable | CSW1411 | | 1 |
| Throttle signal - quick link (red) | CSP1015 | | 1 |

| **Display module components** | **Part No** | **Checked** | **Qty** |
|---|---|---|---|
| Display module | TC-Pod | | 1 |
| Spacer | CS1258 | | 1 |
| M6x35 S/S cap head screw | CSP1016 | | 1 |
| Center bracket - TC-Pod | CS1243 | | 1 |
| Push button assembly - blue/green TC-Pod | CS972 | | 1 |
| Double sided glue pad | CSP1020 | | 2 |
| M3x8 Hex button head | CSP1018 | | 2 |

| **Miscellaneous components** | **Part No** | **Checked** | **Qty** |
|---|---|---|---|
| Cable ties - 200mm x 4mm | CSP1021 | | 16 |
| Printed TCS over view manual | | | 1 |
| Printed TCS 1098R AA manual | | | 1 |
| Nemesis-TCS stickers | CSP1022 | | 6 |

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# Installation – 1098R – AA (revision_04, 31/08/2011)

Author – Mick Boasman

**IMPORTANT – To be read by ALL installers and owners**

## Diagnostic light

The Nemesis TCS directly controls the ignition coils on your bike. If you have a standard, re-flashed or DP ECU on your bike the internal diagnostics will think there is a problem with the coils and activate the diagnostic light on your dashboard. There is no way to avoid this.

## Terms of use

The presence of the Nemesis-TCS does not take away the responsibility of the rider to operate the bike correctly within their own abilities, the track conditions and the laws of physics.

The system is designed to achieve greater on-track performance by the use of power modulation during wheel slip events, but in no way should it be considered possible for the system to recover from every conceivable loss of grip. The onus for safety always rests with the rider to stay within his or her own abilities, and to ensure that the 'on-bike' equipment is programmed, setup correctly, and an appropriate TC level selected for the skill of the rider, the bike and the track conditions.

This equipment is intended for racing or track day performance use only and where exhaust emission controls are not applicable.

By installing and using the Nemesis-TCS you automatically indemnify Competition Systems Ltd, our suppliers and our authorised dealers from all first party or third party loss or damages. Normal components warranty is not affected

## Battery

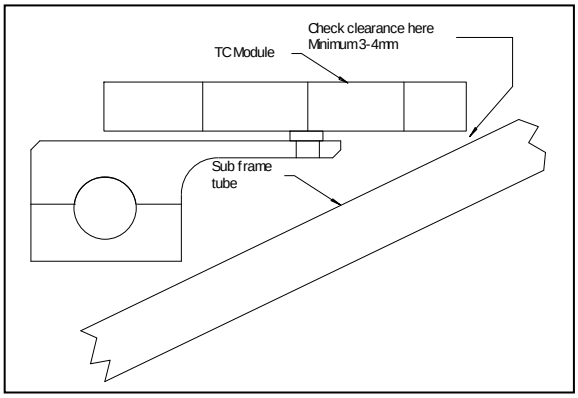
It is recommended that the standard battery be used with this system.

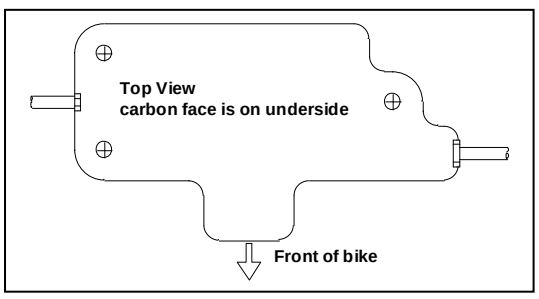
## TC Module Mounting:

- Disconnect and remove the standard DTC module.
- Fit the 3 rubber bobbins inside the apertures in the TCS module housing and secure with three of the M5 flange nuts
- Fit the mounting bracket to the rubber bobbins and secure to the rear frame as seen in this picture.
- When finished the carbon face of the TC module should be on the underside and **level** with the floor when the bike is resting on its wheels
- The wiring should be cable tied to the left and right sub-frame tubes

**IMPORTANT** – Certain aftermarket sub frames are smaller diameter than standard, always ensure that the clamps are fully tight to avoid the TC module coming loose. Do NOT rely on tape to pack out the clamps, use metal shim or drill and tap the brackets / frame

**IMPORTANT** – always check the clearance at the back of the TC module to the angled frame tube, if less than 3-4mm clearance exists, use washers to pack out the bobbins and raise up the TC Module




**IMPORTANT** – If the Module is fitted in an incorrect orientation or angle to the system will not work as it is designed.

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## TC-Pod Fitting:

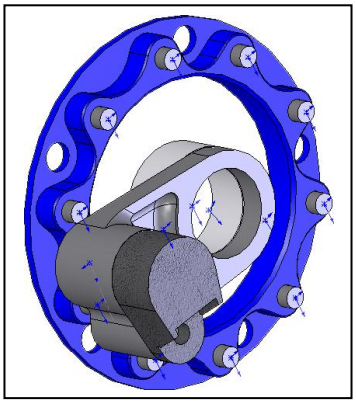
- Due to limited clearance on the handlebars the TC-Pod should be fitted centrally just in front of the dashboard using the angled bracket CS1243. This can be held in place using the double sided adhesive or any alternative method using the single mounting hole. The pod should be pushed back as far as possible so that the upper edge touches the front lower face of the dash, the kit contains a small piece of foam tape to avoid wear on the dash surround

- Mount the CS972 switch assembly to the upper or lower clutch master cylinder clamp using the longer bolt and spacer provided. Connect the CS972 switch assembly to the TC-Pod via the 4 way connector of the TC-Pod

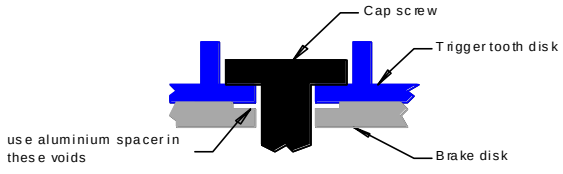
- Important note – The TC-Pod supplied, as part of the TCS is not the same as the standard TC-Pod. Do not attempt to swap parts

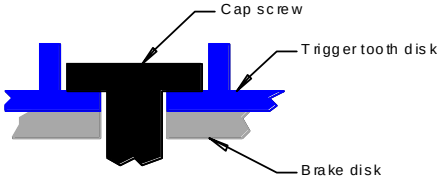
## Front Wheel Speed:

Your TCS kit comes with a dedicated 10-tooth trigger disk, sensor, and axle spacer for use on the left side of the bike.



- Remove the front wheel from the bike
- Remove the 5 bolts that secure the left brake disk in place
- If your brake disks have small sunken rebates in their surface to accommodate the bolt heads, these must be filled using the 5 aluminium washers provided. Failure to do this will distort the trigger disk and more importantly may cause the brake disk to come loose in service - **See images below**
- Fit the new blue trigger disk using the original bolts and secure using the recommended thread lock agent and tightening torque
- Ensure that the trigger disk is sitting flush against the brake disk
- Re-fit the wheel, replacing the standard spacer with the new thinner spacer and sensor mounting
- The sensor gap is fixed and no adjustment is required by the user. The design gap is between 1mm and 2.5mm
- The sensor maximum range is over 4mm for smaller targets and 6mm for larger targets, therefore no other ferrous objects should be installed anywhere near this equipment
- The sensor bracket can be fitted at any angle relative to the fork - this makes no difference to the measurement. The image to the right shows the sensor angled forwards to clear the wheel guard but it can be fitted in a vertical position if modification of the guard is permissible.




## Quick shifter

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# Installation – 1098R – AA (revision_04, 31/08/2011)

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The 1098R wiring is unique among Ducati in that there are 2 wires already in the standard loom located near the left foot rest in a white connector, these are routed to the DTC module wiring and were presumably for a quick shift option to DTC that was never realised.

Within the Nemesis-TCS we re-use these wires for exactly the same purpose.

Any 'normally open' switch can be used and will create a shift signal when these two wires are linked together.

**WIRING – IMPORTANT** – Do not connect any of the three TCS connectors directly to any standard bike loom connectors (even if they fit). These 3 connectors must only be linked to the blue-banded connectors of the wiring we supply. Damage to the equipment or bike components may occur if this rule is ignored.

## Coil Wiring

Locate the wiring loom with yellow identification - CSW1285.

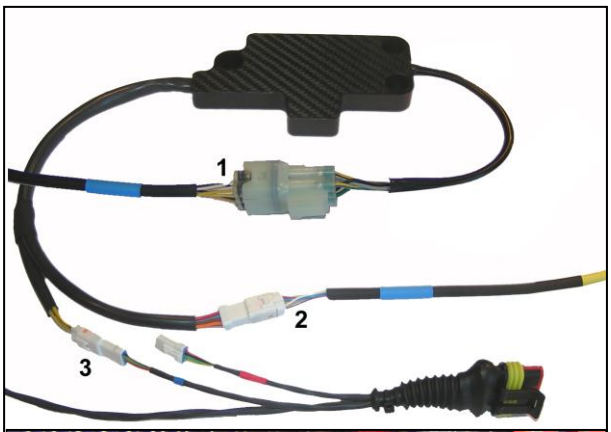
Connect the 6 way connector with the blue banding to connector **1** of the TC Module.

Route the wiring along the left side of the bike following the original wiring route.

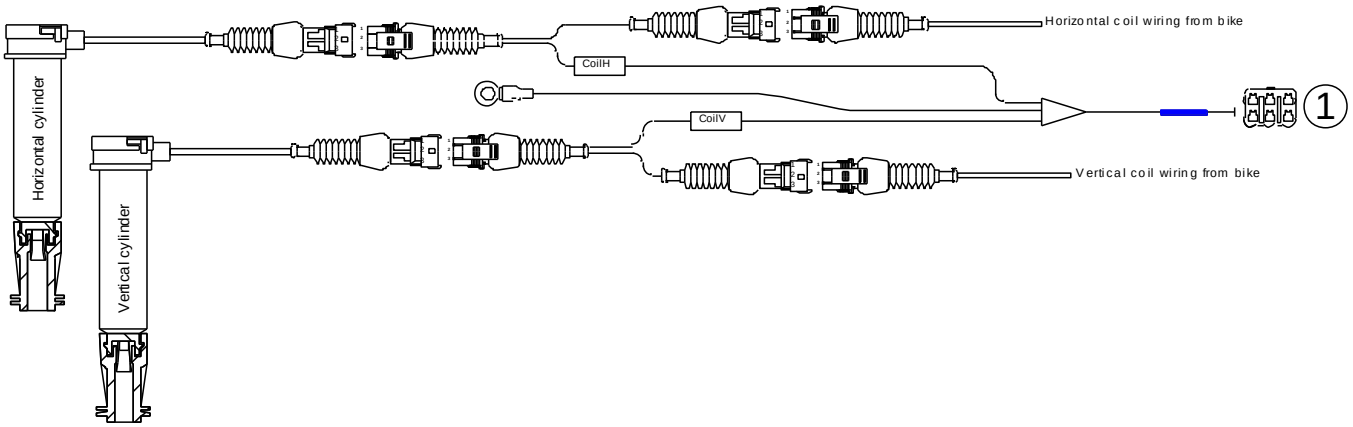
Disconnect the loom wiring from the horizontal coil and use the CSW1285 wiring loom to bridge the gap as shown below and in the example image

Disconnect the loom wiring from the vertical coil and use the CSW1285 wiring loom to bridge the gap as shown below.

Should it ever be necessary to isolate all TCS functions and return the bike to normal operation, simply remove these links and re-connect the coils back to their original loom connections.



**IMPORTANT** – This wiring loom has a 6mm eyelet for direct connection to battery negative. This must not be fastened to any other ground location only battery negative.

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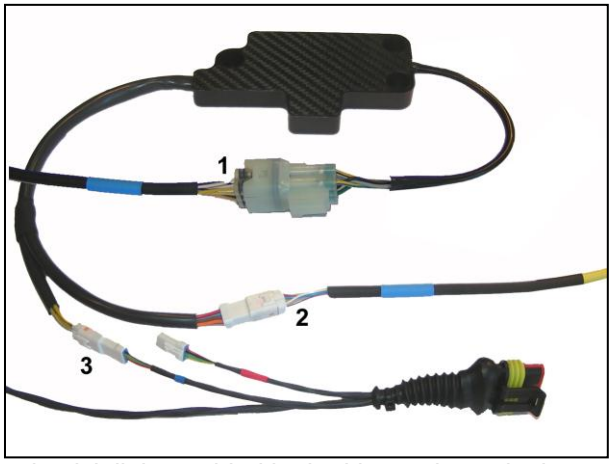
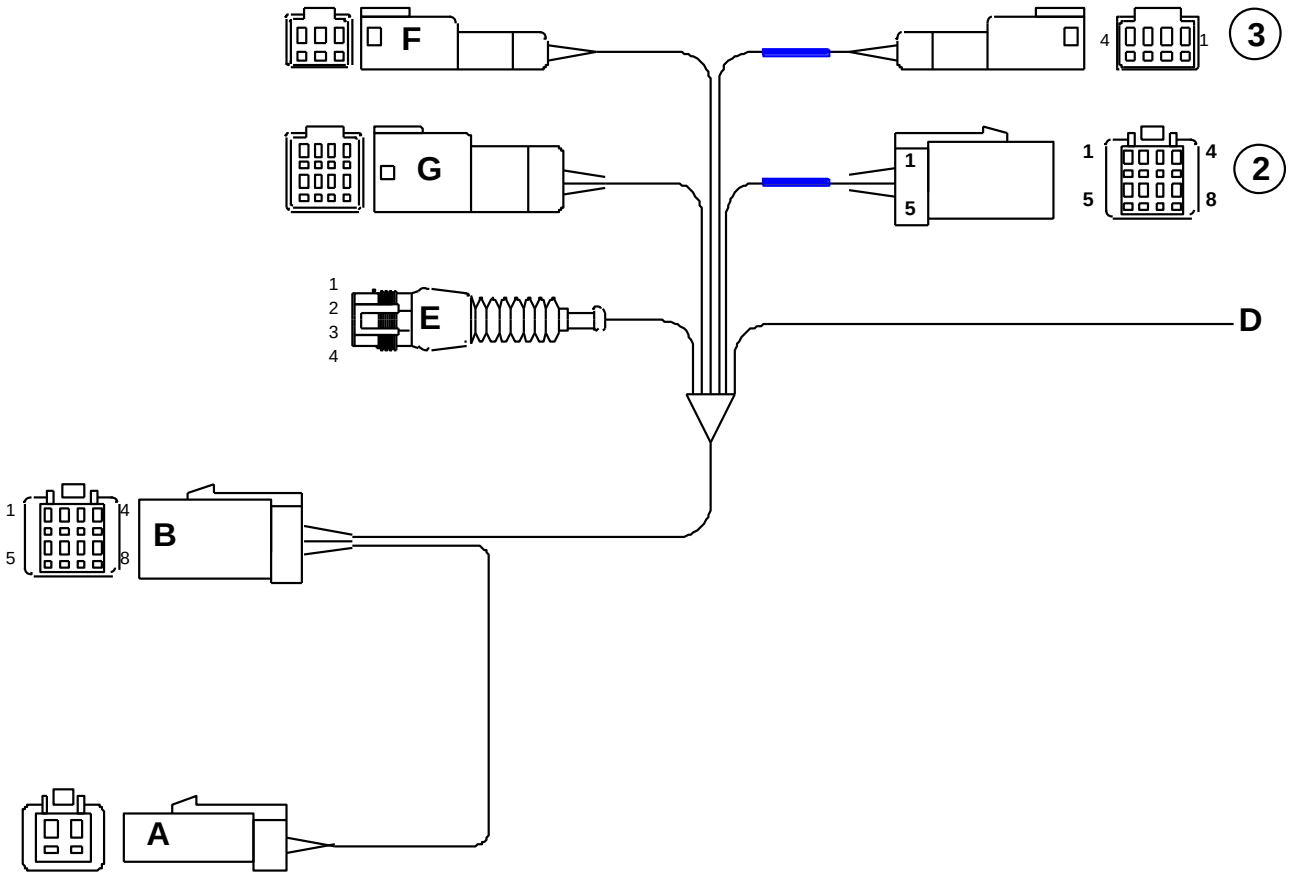



## Inputs wiring

Locate the wiring loom with yellow identification - CSW1299.

- Connect the 8 way connector with the blue banding to connector **2** of the TC Module.
- Connect the 4 way connector with the blue band on the new TCS wiring loom CSW1286 and connect it to connector **3** of the TC Module.
- The throttle input is the single wire **D** of this loom. This needs to be attached to the orange signal wire (pin C) of the standard bike throttle position connector using the red quick link provided in the kit, as shown in the steps on the next page.
- Connect wires F and G to the chassis connectors originally used for the DTC module
- The 4 way black AMP connector **E** is used as the connection point for the WinTC USB adaptor so can be left in any suitable position under the seat.
- Wires **B / A** should be routed along the left side of the bike and are used to link to the display TC-Pod using **B** and a pit limiter switch using **A**
- The pit speed limiter **A** can be connected to any suitable momentary 'normally open' switch if required.

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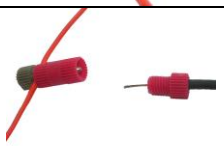
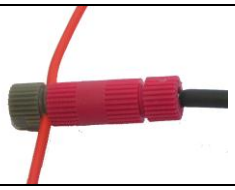
Throttle quick link instructions.

| | |
|---|---|
| The quick link is made up of three parts as seen here on the right: | |
| Using the green section with the slot, push it over the orange throttle signal wire of the bike loom until the wire rests at the bottom of the slot: | |
| The large red centre section must be fitted the correct way around or the link will not work. Locate the end with the sharp pointed tip protruding from the end of the outer body and screw this end onto the green section until it rests firmly against the wire. The sharp tip will pierce the outer sleeve but not sever the inner core of the wire: | |
| Strip back the sleeve of the throttle input wire on the TCS loom CSW1278 so that 8mm of inner metal core is exposed. Push this into the red cap as seen here on the right with inner core showing: |  |
| Screw this cap and wire into the main body ensuring that metal inner core and wire cores are sandwiched and held securely.<br><br>Shrink sleeving can be put over this quick link if required. |  |

**Front speed wiring**

The original front speed sensor wire connection is located on the right hand side of the frame. Use the extension cable provided to link from this to the new front speed sensor.

For bikes which still use the original front speed sensor and pick up trigger disk, this can be retained but you must inform you dealer notifying them of this so that a suitable map with the correct trigger teeth count can be installed. Or if you have the Win-TC USB adaptor it can be changed by you.

**PC Setup**

Your TCS module should be loaded with the following maps:

111_1098R_1_Sxx_Rxx.S19

Sxx – Slip map version
Rxx – revision version

Status position offset value – 0.30 to 0.40 – Refer to **WinTC View Data**

Note : The WinTC installation guide can be found in the Nemesis-TCS manual.

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